European Scientific Journal April 2019 edition Vol.15, No.10 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431

The Impact of Exchange Rate on Inflation: A Case Study of The Gambia(1978-2016)

Alieu Badara Lowe
International University College of Turin (IUC), Italy

Doi:10.19044/esj.2019.v15n10p261 URL:http://dx.doi.org/10.19044/esj.2019.v15n10p261

Abstract

This paper focuses on developing stylized facts about the inflationary process in The Gambia, focusing particularly on the relationship between the exchange rate regime and the sources of inflation. It also examines several variables which policymakers believed have affected the level of inflation in The Gambia. The type of data used in this paper includes the time series data set which is collected from the period 1978-2016. Augmented Dickey-Fuller (ADF) test is used to examine whether a variable is integrated of which was proposed by Dickey and Fuller (1979). This paper employed the order of integration to test for stationarity and it was found out that both inflation and interest rates were stationary at levels. On the other hand, exchange rate and GDP were non-stationary at levels. In addition, Johansen co-integration test is used to explore the presence of a long-run relationship among the series. Findings show that there is no long-run relationship between the variable exchange rate and Inflation.

Using annual data from 1978-2016, it was found that money growth and exchange rate change factors typically related to fiscal influences are far more important in countries with floating exchange rate regimes than in those with fixed exchange rates. Mitigating inflation has been a top agenda for every country that wants to achieve sustainable economic growth in which The Gambia is no exception. More especially, The Gambia being a small open economy exposed to other countries and price shifts in the world economy have a direct impact on The Gambian economy.

Keywords: Exchange Rate, Interest Rate, Inflation Rate, GDP

INTRODUCTION

The Gambia operated a fixed exchange rate between 1965 and 1985, at the time which the dalasi was pegged to the pound sterling. However, following the adoption of the Structural Adjustment Programme, the government introduced an inter-bank floating exchange rate regime in 1986

which resulted in an immediate depreciation of dalasi by 53.4 percent, followed by appreciation in 1987 (Ahortor et al., 2012). In order to deepen the foreign exchange market, authorities permitted the establishment of foreign exchange bureaux in April 1990. The inter-bank foreign exchange market emerged, resulting in the lowering of the premium among the exchange rates prevailing in the two markets (Abu Bakarr et al., 2012).

Monies are injected in the economy to meet the growing need of the population because as population increases, there is a demand for more money to facilitate their transactions. In response to this call, the volume of money in circulation increased which results to high inflation in the long run if not equated to production. However, this paper highlights which of these two factors mentioned above are the real causes of inflation in The Gambia. This is as a result of the fact that The Gambian economy is open to trading with most of the world countries and most goods are not produced locally but are imported. The increase in prices of other nations would instantly reflect in The Gambia which is due to its openness to trade and the fall and rise of foreign currency. Thus, this is found to be an important determinant of the inflation rate in both the short and long run. The high rates of inflation levels distort the investment and consumption decisions. Also, lack of holistic approach towards control of inflation may lower output and, consequently, augment the unemployment problem. Inflation is a very complex and complicated issue to study in a developing country like The Gambia. This is because it has been determined by numerous factors which made it difficult to examine.

After independence, that is 1965, The Gambia maintained a sound and stable macroeconomic framework with modest economic growth in per capita income of about 4.7% and an annual inflation rate of 3.7% (Ahortor et al., 2012). However, in the 1970s, the economics of The Gambia experienced a series of shocks both internal and external. However, in 1985, it becomes extremely clear that The Gambia has undergone a series of economic challenges. Hence, there is the need for reforms through the Ministry of Finance and Trade, Economic Planning, and Central Bank (Abu Bakarret et al., 2012).

Furthermore, since the adoption of the floating exchange rate in 1986, The Gambian dalasi depreciated significantly; inflation rate decelerated in 1990 from 12.2 percent to 0.8 percent in 2000 and coincided with relative stability in the external value of the dalasi (Abu Bakarret et al., 2012). Between 2000 and 2003, inflationary pressure emerged as a result of the drought and depreciation of the dalasi. The growth in real GDP increased from 3.7 percent in 1998 to 9.2 percent in 2004. In addition, real GDP increased from negative 9.0 percent in 2005 to positive 6.1 percent in 2010, arising from an improved agricultural output, increased tourist activities, and relative stability in the exchange rate (Abu Bakarret et al., 2012).

Value of the Study

As economic variables, of which exchange rate and inflation are no exceptions, continuously follow a random walk, it is vital to frequently do research on these variables to know the trends of each of them which is as well vital for policy-making. Since these two variables have at least some relationships, policymakers who aim at reducing the rate of inflation will put into consideration the exchange rate movements to accomplish their desired objectives. Therefore, the research does not only wish to present the effects of exchange rate on inflation but it also shows how the problems of inflation can be mitigated.

LITERATURE REVIEW

In this chapter, both the theoretical and empirical literature were reviewed which were related to the field of study. Empirical literature included that which has been tested using statistical and econometric analysis.

Purchasing Power Parity (PPP) Theory

When a country's inflation rate rises relative to that of another country, decreased exports and increased imports depress the exchange rate of the high-inflation country. This relation implies that a country whose currency depreciates in value means decreased exports and increased imports which bring about inflation. This is because if the country from which another country is importing is experiencing inflation, then there will be what is called imported inflation in such a country (Wilson, 2011).

Cost-push View

This theory came into existence mainly in the 1950s and 1960s and asserts that pressure in wages and monopoly pricing policies cause inflation. For cost-push theory**,** inflation occurs as a result of factor prices soaring more rapidly than factor productivities. On a simpler note, a decreased aggregate supply precipitates cost-push inflation. This might be due to an appreciation in wages or the price of raw materials which increases the production cost.

According to the Keynesians (1968), inflation occurs as a result of income disturbances and shocks to the economy, like oil price increases, while the monetarists believe that inflation occurs because of excess demand and inappropriate monetary responses to economic situations.

Monetarist View on Inflation

The theory of monetarism was brought forward by Friedman (1982). In his theory, he looks at the quantity theory of money and linked spending to the total amount of money in the economy. The monetarist theory explains demand-pull inflation as being caused by excess demand for goods and

services which causes a positive output gap, whereby businesses respond by raising prices to increase their profit margin. His theory asserts that inflation was as a result of an increase in the supply of money in the economy. He concludes that inflation occurs if the growth of money supply in the economy supersedes economic growth. This is attributed to increases in the money supply in the economy, depreciation of the exchange rate, and reduction in the tax rates in an economy.

Monetarism maintains the view that inflation is as a result of the higher rate of growth of the money supply from the rate of growth in the economy, which is aimed at regulating the quantity, cost, and allocation of money and credit in the whole economy. Therefore, any monetary policy seeks to stabilize both the exchange rates and prices, raise the level of employment, stable economic growth, and interest rate smoothing.

Empirical Literature Review

Durevall and Ndung'u (2001) in their paper on inflation in Kenya assert that inflation emanates from cost-push factors due to currency devaluation, demand-pull forces where excessive credit expansion causes excess demand, the balance of payments crisis, and controlled prices which deviate from market prices causing shocks. They observe that the monetary base, exchange rate, real income growth, and interest rate have an effect on the rate of inflation in a country. They concluded that exchange rate is more important than monetary factors in explaining the inflationary process in Kenya and that inflation and money supply leads to the depreciation of the nominal exchange rates.

Okhiria and Saliu (2008) examined the impact of exchange rate on the inflation rate and the relationship that exist among government expenditure, money supply exchange rate, oil revenue, and inflation in Nigeria. The study adopted the Augmented Dickey-Fuller to carry out the unit root test and co-integration with Johansen test. The study found out that measures employed by the government to reduce the amount of money supply, government expenditure, and control measure on the exchange rate could lead to poor productivity in the country. The study concluded by recommending that policymakers should try to cushion the effect of inflation on the economy when the need arises so that rise in the exchange rate will not lead to inflationary pressure in the short run. Even though inflation and exchange rate have no long term relationship, short term relationship seems to exist.

Seyed Mohammad Alavinasab (2014) examined the factors affecting the rate of inflation in Iran, using annual time series data between the periods of 1965-2012. Augmented Dickey-Fuller (ADF) and Johansen co-integration test were used. The result shows that there exists a long-run co-integration relationship between money supply, gross domestic product, oil export

revenue, and inflation. Here, money supply and oil export revenue have a positive relationship with inflation and GDP have a negative relationship with inflation. The error correction estimate obtained (-0.593003) was negative and statistically significant, indicating that these variables also have significant effects on the inflation rate in the short run.

Kirimi (2014) also investigated the main determinants of inflation in Kenya from 1970-2013 and estimated the time series data using ordinary least squares. More specifically, the study demonstrates that the central bank rates and GDP growth rate are significant determinants of inflation rate during the period. According to the result, food price, GDP growth rate, and the corruption perception had a negative relationship with inflation, while money supply (M2) and exchange rate had a positive relationship with the inflation rate. Central bank rates were also found to be statistically significant at a 5% significance level in causing the variation in the inflation rate. However, wage rate was found insignificant in causing the changes in inflation with political instability having no effect on inflation.

Egwaikhide et al. (1994) in their studies of the impact of exchange rate on inflation and budget deficit in Nigeria used annual data from 1973–1989 by using co-integration and EECM models. They used inflation, revenue, and exchange rate equations to analyze the impacts of exchange rate on inflation and budget deficit. The results from the inflation equation show that the official exchange rate is the main determinants of inflation. Egwaikhide et al. concluded that the official exchange rate in Nigeria is the main determinant of inflation and budget deficits.

An Overview of the Literature

Numerous theoretical and empirical theories and views on this subject have been considered in this study. An interaction of forces has been found to cause inflation, with a number of factors such as exchange rates, money supply, wages, food, and oil prices leading to a rise in the general price level. Some of the studies do not specify a correct model to capture the true effect of exchange rate on inflation. Since inflation and exchange rate have no long term relationship, the short term relationship seems to exist. However, none of the studies was found to examine the effect of exchange rate on inflation on the economic growth of The Gambia. A more recent analysis on the exchange rate on inflation in The Gambia is significant so as to ascertain the significance of the variables. This, however, is attributed to the fact that there is a lack of consensus on the factors affecting exchange rate on inflation causation.

METHODOLOGY

This chapter explains the research methodology of the study. The research methodology presents the description and analysis of the data,

estimation technique, model specification, and various tests of the models. This chapter also discussed the relationship between inflation, exchange rate, interest rate, and GDP. The study aimed at analysing these factors by using both econometric analysis and descriptive evidence where inflation as the dependent variable is regressed on the independent variables or the explanatory variables.

The research makes use of the Ordinary Least Squares (OLS) for estimation and this is because it is easy to use, straight forward, and it is able to give us the best linear unbiased estimates. It is also preferred because of its ability to explain the effects of one variable resulting from changes of other several variables.

Data Description

The study made use of secondary annual time series data from 1978-2016 which was extracted from the World Development Indicators due to the consistency of the variables. This regression is done using Stata version 12 as it is the most preferred and recent econometric software.

Model Specification

The study suggests that inflation is the function of an exchange rate, gross domestic product, and interest rate. However, to determine the impact of these variables on inflation, the simple regression equation is explicitly specified as follows:

Inflt = F (interetet, GDPt, exchretet)

Where:

Inflt = Inflation rate
Interetet = Interest rate
GDPt = Gross Domestic Product
Exchretet = Official exchange rate
However, the model takes this functional form

$Inflt = \beta 0 + \beta 1\ interetet + \beta 2\ GDPt + \beta 3\ exchretet + Ut$

Estimation Technique

The estimation technique used in this study to estimate the models' parameters is called the Ordinary Least Square (OLS). It is a type of linear least squares method for estimating the unknown parameters in a linear regression model. Ordinary Least Squares (OLS) is the most common estimation method for linear models—and that is true for a good reason. As long as your model satisfies the OLS assumptions for linear regression, you can rest easy knowing that you are getting the best possible estimates.

Description of Variables and their Expected Signs

- **Exchange Rate**

An exchange rate is a price exactly the same as any other price of the amount you have to give up to acquire something else, in this case, another currency. Consequently, an exchange rate is the price of one currency in terms of another. In other words, it is the price you will pay in one currency to get hold of another. The price can be set in various ways. It may be fixed by the government or it could perhaps be linked to something external - for example, gold. However, the most likely alternative is that it will be fixed in the market. Since it is a price, it will be determined, like any other price, by demand and supply. This is the supply and demand of Dalasi which is traded on the foreign exchange market and is not the amount of Dalasi in circulation. A high level of demand for a currency will force up its price, which is the exchange rate. Where supply is equal to demand is the equilibrium exchange rate. An exchange rate is expected to have a negative sign. This is because the exchange rate has a direct impact on the price of exports and imports in a country. Thus, if the nominal exchange rate of a country depreciates, inflation will increase. This is expected to have a negative sign (Sowa & Kwakye, 1993).

- **Inflation Rate**

This refers to an annual increase in the price of a basket of goods and services that are purchased by consumers in an economy leading to the decline of the purchasing power of a country's currency. In other words, it is a rate at which the currency is being devalued causing the general prices of consumer goods to increase and this is relative to a change in currency value. The usual approximate measure of this is the Consumer Price Index (CPI) which weighs the prices of different goods according to importance in a typical budget, and then to see how much the prices of these goods have increased. This immediately raises some problems. For example, the weighting must change over time (Akhiria & Saliu, 2008).

- **Interest Rate**

An interest rate is a rate charged or paid for the use of money. It is often expressed as an annual percentage of the principal. The interest rate is expected to have a negative sign. This is because when interest rates are low, individuals and businesses tend to demand more loans. Each bank loan increases the money supply in a fractional reserve banking system. According to the quantity theory of money, growing money supply increases inflation. Thus, a low interest rate tends to result in more inflation. On the other hand, high-interest rates tend to result in low inflation (Saeed, 2004).

- **Gross Domestic Product**

Gross Domestic Product (GDP) is the monetary value of all finished goods and services produced within the borders of a country in a given period of time. It is expected to have a positive sign. This is because high GDP growth is associated with increased demand which will force prices to rise (Allan, 1989).

Analysis and Data Exploration Techniques

Pre-Estimation Tests

- **Stationarity Tests**

Stationary time series is one whose statistical properties such as mean, variance, autocorrelation, etc. are all constant over time. Thus, for a data to be valid, it must be stationary. The research made use of the order of integration to test for stationarity. If a series is integrated of order (0), for example I (0), then it is stationary but if otherwise it is non-stationary. The test for stationarity was done through the use of the Augmented Dickey-Fuller Unit Root Test (Gujarati, 1995).

- **Augmented Dickey-Fuller Unit Root Test**

However, due to the fact that the Dickey-fuller test may suffer autocorrelation in the residual process if OLS is applied in this paper, it made use of the augmented Dickey-Fuller test. This is because the errors may not be normally and identically distributed and the residual variance may be biased. This test is derived from the Dickey-Fuller test and it is an appropriate method of checking whether a variable is integrated of orders. This was proposed by Dickey and Fuller (1979). The null hypothesis may be taken to mean that prices follow a random walk and future prices cannot be predicted, while the alternative may mean economic agents may predict future prices and it does not follow a random walk (Gujarati, 1995).

- **Testing for Structural Stability of Regression Models**

This test is used when dealing with time series data and there may be a structural change between the dependent variable Y and the explanatory variables the Xs. This will be achieved by dividing the data into two sets. For the purpose of this research, it was investigated whether shocks in the economy had an impact on the inflation rate.

- **Multicollinearity**

The explanatory variables should not be correlated. This is because if they are correlated, the determinant will be zero and the variance cannot be found. When Multicollinearity exists among explanatory variables, it is impossible to get a unique estimate of all parameters. The problem of

multicollinearity may lead to large variances and standard errors of the OLS estimators, wider confidence intervals, insignificant t ratios, high values of t ratios, and high values of R2 (Glauber et al., 1964). It also makes the OLS estimators and their standard errors to be sensitive to small changes in the data. This could be solved by having prior information on the parameters, transformation of variables acquisition of new data, dropping one of the variables in the model or rethinking the model altogether. When multicollinearity exists, there could be wrong signs of the regression coefficients and in the presence of serious multicollinearity problem (Gujarati, 1995).

- **Autocorrelation**

Autocorrelation occurs when the current error term is correlated with the previous error term. However, for the ordinary least squares to be in consistency, there must be no autocorrelation. When there is no autocorrelation in a multiple regression model, it simply means; E (Ui, Uj) =0 where $i \neq j$. That means the expected value of the two error terms Ui and Uj is zero.

- **Normality Tests**

Normality tests are used to determine whether a model is normally distributed and to compute how likely it is for a random variable underlying the data set to be normally distributed. This test is based on the assumption that the error term Ui is normally distributed. The study made use of the Shapiro-Wilk test to test for normality (Gujarati, 1995).

- **Heteroscedasticity**

Heteroscedasticity occurs when population variances are not constant or unequal. This can be tested through the use of the Breusch-Pagan test. If the chi-square value obtained exceeds the critical chi-square value, the null hypothesis of no heteroscedasticity is rejected (Kirimi, 2014).

RESEARCH FINDINGS AND ANALYSIS

This chapter shows the descriptive statistics of Multicollinearity test, stationarity test, normality test, autocorrelation test, and the interpretation of regression coefficient results and findings.

Descriptive Statistics

Table 4.1. A brief summary of the variables used in the study

Variable	N	Mean	SD	Median	p25	p75	IQR	Minimum	Maximum
Infl	37	9.09	9.73	6.13	4.49	10.64	6.14	0.84	56.56
exchrte	37	14.83	11.44	9.80	6.92	26.64	19.72	1.72	41.73
Intrte	37	14.78	14.29	18.63	12.33	21.80	9.47	-45.95	33.47
lgGDP	37	20.02	0.62	20.35	19.30	20.52	1.22	18.96	20.69

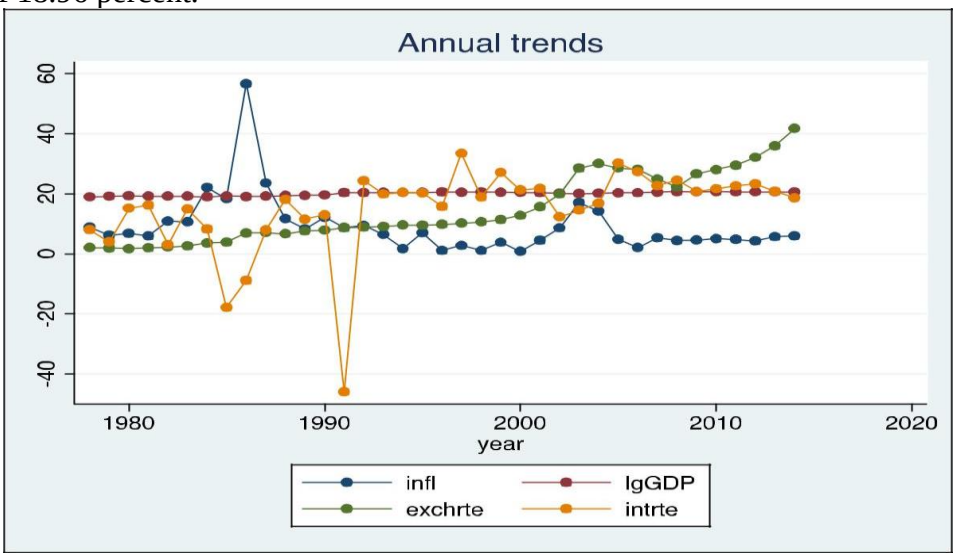
Source**:** Computed from Stata version 12

The average inflation rate during 1978 -2016 was 9.09 percent with a standard deviation of 9.73. The Gambia recorded a maximum level of inflation of 56.56 percent and a minimum inflation level of 0.84 percent.

On average, the exchange rate had a mean of 14.83 percent with a standard deviation of 11.44 percent. The maximum level of exchange rate during the study period was 41.73 percent and a minimum exchange rate of 1.72.

Interest rate registered a mean of 14.78 percent with a standard deviation of 14.29 percent. High level of interest rate during the study period was 33.47 percent with a minimum level of 45.95 percent.

The economy recorded an average GDP growth rate of 20.02 with a maximum GDP growth rate of 20.69 percent and a minimum GDP growth rate of 18.96 percent.



Source**:** Computed from Stata version 12

Diagnostic Test

Table 4.2. Augmented Dickey-Fuller unit-root test

Variable	Test statistic	5% critical Value	MacKinnon P value	Conclusion
Inflation	-3.255	-2.969	0.0170	Stationary
Exchange rate	1.463	-2.969	0.9974	Non-Stationary
Interest rate	-4.570	-2.969	0.0001	Stationary
lgGDP	-1.519	-2.969	0.5240	Non-Stationary

Source**:** Computed from Stata version 12

The table above shows the result from the Augmented Dickey-Fuller test to examine unit root. The variables with p values less than 0.05 are stationary, while variables with p values greater than 0.05 are non-stationary. The Stationarity test reveals that inflation and interest rate are integrated of order zero. Thus, inflation and interest rate are stationary. However, the exchange rate and GDP growth rate were established to be non-stationary.

Multicollinearity Test

The Multicollinearity test on the entire explanatory variables indicates no collinearity between variables.

Table 4.3. Correlations matrix and their p values

	Infl	**Intrte**	**exchrte**	**LgGDP**
Infl	1			
Intrte	r= -0.4642 p= 0.0038	1		
Exchrte	r= -0.2372 p= 0.1575	r=0.3897 p=0.0171	1	
lgGDP	r=-0.5692 p=0.0002	r=0.4419 p=0.0062	r=0.6768 p<0.001	1

Source**:** Computed from Stata version 12

Collinearity

Pairwise correlation matrix in the table below shows no serious correlations between the predictor variables despite a mild correlation between GDP and exchange rate (r=0.68, p<0.001). This is supported by the variance inflation factor (vif) in the table below (i.e. none of the vif values are above 10).

Table 4.4.

Variable	**VIF**	**1/VIF**
lgGDP	1.98	0.504568
Exchrte	1.88	0.531787
Intrte	1.27	0.78954
Mean VIF	1.71	

Source**:** Computed from Stata version 12

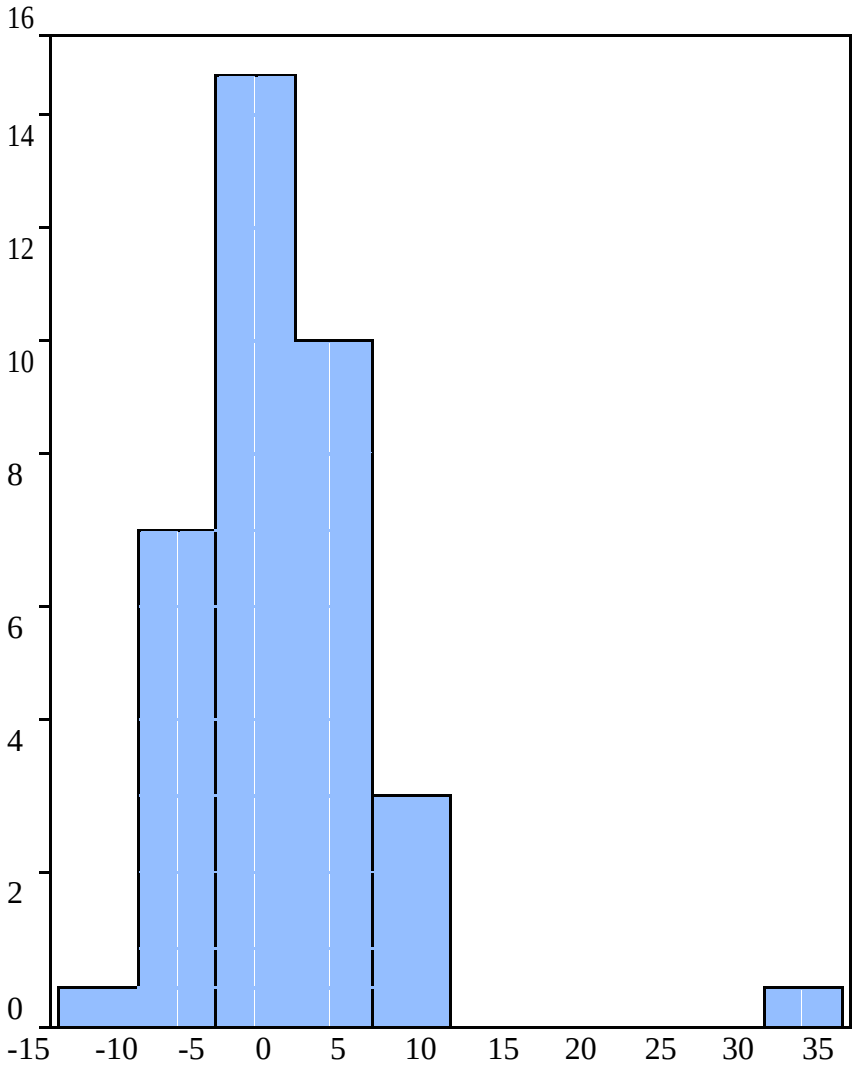
Heteroscedasticity Test

Residual values are plotted against fitted and predictor variables to assess heteroscedasticity. The table above shows a pairwise correlation matrix. It depicts no serious relationship between the predictor variables. This can be seen by the variance inflation factor. For instance, none of the vif values is above 10.

Source**:** Computed from Stata version 12

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity test
Ho: Constant variance
Variables: fitted values of inflation
chi2 (1) = 39.48
Prob> chi2 = 0.000

Normality Test



Series: Residuals

Sample 1978 2014
Observations 37

Mean	-3.98e-15
Median	-0.563030
Maximum	34.71111
Minimum	-10.57256
Std. Dev.	7.305368
Skewness	2.845373
Kurtosis	14.93807
Jarque-Bera	269.6406
Probability	0.000000

Source**:** Computed from Stata version 12

Regression Analysis of OLS Output

Table 4.5.

reginflexchrtelgGDPintrte

Source	SS	df	MS	Number of obs = 37
				F(3, 33) = 8.50
Model	1484.21318	3	494.737728	Prob> F = 0.0003
Residual	1921.26195	33	58.220059	R-squared = 0.4358
				Adj R-squared = 0.3845
Total	3405.47513	36	94.5965314	Root MSE = 7.6302

Infl	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Exchrte	0.275	0.152	1.800	0.080	-0.035	0.585
lgGDP	-10.275	2.887	-3.560	0.001	-16.149	-4.402
Intrte	-0.205	0.100	-2.040	0.049	-0.408	-0.001
_cons	213.757	56.070	3.810	0.001	99.681	327.833

Source**:** Computed from Stata version 12

Therefore, the regression equation is given as:

$Infl_t = 213.7569 + 0.2750727exchrte_t - 10.27533GDP_t - 0.2046503intete_t$

The regression result from the table above indicates the r-squared of 0.4358 implying that 43.58 of the total variation in inflation level is attributed to the changes in the independent variables used in the model. The variables included in the model explain only 43.58 of the changes in inflation in The Gambia. Also, this implies that there is another determinant of inflation which was not captured in the model. The F-statistics (8.50) with p-value 0.0003 is less than 0.05. Therefore, the explanatory variables jointly explain the variation on inflation in The Gambia.

The regression coefficient showed there is a negative relationship between GDP and inflation level (-10.27533). This means that when GDP increases by a unit, inflation will decrease by 10.27533. However, 5 percent of significance was established to be statistically significant (t= -3.56, p=0.001, p<0.05) in causing a variation in inflation. The interest rate is statistically significant at 5 percent level of significance in causing the variation in inflation (t= -2.04 p=0.049, p<0.05). In addition, a unit increase in interest rate will cause inflation to decrease by 0.2046503 units. The exchange rate has a positive relationship with an interest rate. A unit increase in the exchange rate will result in inflation rate increasing by 0.2750727 but not significant.

In this paper, it is observed that both inflation and interest rates were stationary at levels, while the exchange rate and GDP were non-stationary at

levels. Findings show that there is no long-run relationship between the variable exchange rate and Inflation.

Conclusion and Policy Recommendations

Based on the empirical findings from the study, some important facts were found about the general effect of exchange rate on inflation between 1978 and 2016. The macroeconomic uncertainties that are associated with inflation in The Gambia are real GDP, exchange rate, interest rate, and many others. These variables combined to significantly explain the rate of inflation in The Gambia of about 43.58% and the F-statistics (8.50) with p-value 0.0003 is less than 0.05. Therefore, the explanatory variables jointly explain the variation on inflation in The Gambia. Also, growth in real output or expenditure is the main determinant of inflation based on the scope of the studies. Hence, if GDP growth increases by one unit, inflation will increase by 10.28%. Therefore, policymakers should embark on fiscal policies that will curtail economic growth in order to contain an increase in inflation.

Policy Recommendations

Firstly, since the implementation of the structural adjustment program was aimed at reversing the economic turndown in the 1980s, it is recommended that the relevant authorities should try and implement policies that will enrich the supply-side by increasing domestic production. The government can achieve this by continuing to pursue policies that make our agricultural products more competitive in the world market. Thus, this would enable us to achieve sustainable economic growth. The tourism sector is another attractive area, and there is the need to boost the economic activities in the sector by encouraging both traditional and non-traditional exports, that is, to increase domestic production of the non-tradable. This will help in the inflow of foreign exchange that will lead to the stabilization of domestic currency (dalasi). In addition, the government should reduce her interference in the production of goods and services, and also measures have to be put in place to reduce the budget deficit of the government.

Monetary Policy

The central bank of The Gambia after consulting the Minister should use any of its discretional instruments of control that will curtail the unusual movements in the money supply and prices in the economy. That is, they should embark on policies that will encourage price stability through the implementation of prudent monetary policies, thus achieving exchange rate stability. In this vein, the monetary policy committee of the central bank of The Gambia should be given real independence to enable them maintain tight monetary policy through, for example, intensified open market operations and

mopping up excess liquidity. In addition to this, there should be strict adherence to the Economic Community of West African States' (ECOWAS) convergence criteria on government borrowings. The criteria place on the borrowings of governments of countries in the West African sub-region should strictly adhere to that which will help to prepare grounds for uniform inflation and interest rates within the region. Finally, liquidity injections should be primarily centred to direct productive activity rather than consumption so as to discourage monetary growth in the economy.

Limitations of the Study

Due to the nature of the data, the variable of interest, that is, the exchange rate was not statistically significant with a t-statistic of -1.10 and t-probability of 0.282. A lot of reasons could possibly be assigned to this fact. The Gambian economy is a small open economy. Thus, it is a price taker in the world market with the depreciation of the dalasi. Export commodities from The Gambia become cheaper as against her imports that become more expensive. Another limitation of the study is that data was not obtained for some specific years.

References

1. Alavinasab, S.M. (2014). *Determinants of Inflation in Iran,* Int Journal of Social Science and Management , 1(1), 71-77.
2. Altowaijri, H. A. (2011). *Determinants of Inflation in Saudi Arabia Altowaijri,1*(4), 109–114.
3. Arif, K. M. & Ali, M. M. (2012). *Determinants of Inflation in Bangladesh* : An Empirical Investigation, *3*(12), 9–17.
4. Basu, K. (2011). Understanding inflation and controlling it.*Paper. Available at: http://finmin. nic.in/WorkingPaper/understanding_inflation_controlling. pdf,(accessed 14 November 2011)*
5. Bayo, F. (2003). *Determinant of inflation in Nigeria: An empirical analysis*, AdekunteAjasin; University, Akunglo-Akoko [online] Available at: www.ijhssnet.com>journals>vol.1NO.18
6. Bowa, C. (1994). *The determinants of the inflationary process in Zambia (1973-1993)* (Doctoral dissertation, University of Nairobi).
7. Braumann, B. (2004). *High inflation and real wages.IMF Staff Papers,* 123-147.
8. Devarajan, S. & Fengler, W. (2013). *Africa's Economic Boom:*Why the Pessimists and the Optimists are Both Right. *Foreign Aff.*, *92*, 68.
9. Dickey, D. A. & Fuller, W. A. (1979). *Distribution of the estimators for autoregressive time series with a unit root.Journal of the American statistical association, 74*(366a), 427- 431.

10. Durevall, D. & Ndung'u, N. S. (2001). *A dynamic model of inflation of Kenya, 1974- 96.Journal of African Economies, 10*(1), 92-125.
11. Egwaikhide, F.O. et al. (1994). *Exchange rate depreciation, Budget deficit and Inflation,* Nigerian Institute of Social and Economic Research (NISER), 26(3) 40-44.
12. Farrar & Glauber (1964). *Sloan School of Management Massachusetts Institute of Technology Cambridge 39, Massachusetts December.*
13. Ghumro, N. H. & Memon, P. A. (2015). *Determinants of Inflation :* Evidence from Pakistan using Autoregressive Distributed Lagged Approach., (April), 17–30.
14. Gujarati, D. (1995). *Basic Econometrics, Third Edition*. McGraw-Hill International Educational Editions, New York. Form http://www.imf.org/external/data.htm.
15. Gyebi, F. & Boafo, G. (2009). *Macroeconomic determinant of inflation in Nigeria* from 1990-2009, University of Ghana Business School, legon, Accra [online] Available at: www.thejournalbusiness.org>viewfile.
16. Gyebi, F. (2009). *Macroeconomic Determinants of Inflation in Ghana from 1990 – 2009*, 81–93.
17. Kallon, K. M. (1994). *An Econometric Analysis of Inflation in Sierra Leone, Journal of African Economies*, *3*(2), 199-230.
18. Kirimi, W.N. (2014). *Determinant of Inflation in Kenya,* School of Economics of the University of Nairobi, 34-43.
19. Kumar, R. (2013). *A Study of Inflation Dynamics in India: A Cointegrated Autoregressive Approach*,IOSR Journal Of Humanities And Social Science (IOSR-JHSS), 8(1), 65-72.
20. Okhiria, O. & Saliu, T. S. (2008). *Exchange Rate Variation and Inflation in Nigeria (1970-2007),* School of Technology and Society. Skovde, 41-48.
21. Ramady, M. A. (2009). *EXTERNAL AND INTERNAL DETERMINANTS OF INFLATION* : A CASE STUDY OF SAUDI ARABIA, *2*(1), 25–38.
22. Sepehri Ardeshir & Moshiri Saeed (2004). "Inflation-Growth Profiles Across Countries: Evidence from Developing and Developed Countries". *International Review of Applied Economics*. **18** (2): 191–207.
23. West African Monetary Institution (2012). *Exchange rate, inflation and macroeconomic performance in the West African Monetary zone*. NO 2, Accra Ghana [online] Available at: www.wami-imao.org>occasionalpaperswp97170 (1).pdf. (n.d.).